

## SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's full Name: Everett White Examiner #: 67057 Date: 2/22/2001  
 Art Unit: 1623 Phone Number 308-4621 Serial Number: 09/101,341  
 Mail Box: CM1-7E12 and Bldg/Room Location: CM1-7B13 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be  
 search. Include the elected species or structures, key words, synonyms, acronyms, and registry numbers; and combine with  
 the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant  
 citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

\*-See Cover Sheet

Title of Invention: \*

Inventors (please provide full names): \*

Earliest priority Filing Date: January 10, 1996

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent  
 numbers) along with the appropriate serial number.

Please search the method of producing polysaccharide fibers of claims 1-17 and 19. Note  
 that Claim 1 involves a method wherein the polysaccharide is dissolved in water (the solvent) first  
 before spraying the solution into a bath that contains a water-miscible organic solvent and a cross-  
 linker. The broadest claim is claim 1. A copy of the claims (1-17 and 19) and the abstract is  
 provided.

The cover sheet which discloses the inventor names, title of the invention, and the earliest priority  
 filing date is also provided.

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## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher:	NA Sequence (#)	STN
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#)	Questel/Orbit
Date Searcher Picked Up:	Bibliographic	Dr. Link
Date Completed:	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	Fulltext	Sequence Systems
Clerical prep time:	Patent Family	WWW/Internet
Online Time:	Other	Other (specify)

## SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: Everett White  
 Art Unit: 1623 Phone Number 308-4621  
 Mail Box and Bldg/Room Location: CMI-7B13

Examiner #: 67057 Date: 2/24/2001  
 Serial Number: 09/101,941  
 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

\* - Cover Sheet

Title of Invention: \*

Inventors (please provide full names): \*

Earliest Priority Filing Date: 1/10/1996

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

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Point of Contact:  
 Mary Hale  
 Technical Info. Specialist  
 CMI 12D16 Tel: 308-4258

1200  
 1/14/01

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Searcher: CH/ALIA

## Type of Search

Searcher Phone #: 515

NA Sequence (#)

## Vendors and cost where applicable

STN 213.01

Searcher Location:

Structure (#)

Dialog

Date Searcher Picked Up:

Bibliographic ✓

Dr. Link

Date Completed: 3/16

Litigation

Lexis/Nexis

Searcher Prep & Review Time: 15

Fulltext

Sequence Systems

Clerical Prep Time:

Patent Family

WWW/Internet

Online Time: 15

Other

Other (specify)

White  
101341

=> fil reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.15	0.15

FILE 'REGISTRY' ENTERED AT 11:49:09 ON 06 MAR 2001  
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STRUCTURE FILE UPDATES: 5 MAR 2001 HIGHEST RN 325767-45-1  
DICTIONARY FILE UPDATES: 5 MAR 2001 HIGHEST RN 325767-45-1

TSCA INFORMATION NOW CURRENT THROUGH July 8, 2000

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT  
for details.

=> e carboxymethyl cellulose/cn 5

E1	1	CARBOXYMETHYL CARUBIN/CN
E2	1	CARBOXYMETHYL CASEIN/CN
E3	2	--> CARBOXYMETHYL CELLULOSE/CN
E4	1	CARBOXYMETHYL CELLULOSE 2-(DIETHYLAMINO)ETHYL
P-AMINOBENZOAT		E/CN
E5	1	CARBOXYMETHYL CELLULOSE 2-(DIETHYLAMINO)ETHYL
P-AMINOBENZOAT		E SALT/CN

=> s e3;e cellulose xanthane/cn 5

L1 2 "CARBOXYMETHYL CELLULOSE"/CN

E1	1	CELLULOSE VALERATE PALMITATE/CN
E2	1	CELLULOSE VINYLSULFONATE/CN
E3	0	--> CELLULOSE XANTHANE/CN
E4	1	CELLULOSE XANTHATE/CN
E5	1	CELLULOSE XANTHATE ALLYL ETHER/CN

=> e starch/cn 5

E1	1	STARBURST GENERATION 9.5/CN
E2	1	STARBURST ZERO GENERATION/CN
E3	1	--> STARCH/CN
E4	1	STARCH (2-(ALLYLOXYCARBONYL)ETHYLIDENE)ACETAL/CN
E5	1	STARCH (2-(ETHOXYCARBONYL)ETHYLIDENE)ACETAL/CN

=> s e3

L2 1 STARCH/CN Prepared by M. Hale 308-4258

=> s (gellan or gelan)/cn

2 GELLAN/CN  
0 GELAN/CN  
L3 2 (GELLAN OR GELAN)/CN

=> s (chitin or chitosan or guar gum or pectin or alginate)/cn

1 CHITIN/CN  
1 CHITOSAN/CN  
1 GUAR GUM/CN  
1 PECTIN/CN  
0 ALGINATE/CN  
L4 4 (CHITIN OR CHITOSAN OR GUAR GUM OR PECTIN OR ALGINATE)/CN

=> fil medl,capplus,biosis,embase,wpids,jicst,biotechno

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	34.82	34.97

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FILE 'CAPPLUS' ENTERED AT 11:50:37 ON 06 MAR 2001  
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=> s (11 or 12 or 13 or 14 or carboxymethyl cellulose or starch or cellulose xanthane or gellan or gelan or chitin or chitosan or guar gum or pectin or alginate or polysaccharide) and (alcohol or ketone or methanol or ethanol or isopropanol or acetone)

L5 1752 FILE MEDLINE  
L6 20445 FILE CAPPLUS  
L7 3601 FILE BIOSIS  
L8 1630 FILE EMBASE  
L9 11303 FILE WPIDS  
L10 6339 FILE JICST-EPLUS  
L11 806 FILE BIOTECHNO

Prepared by M. Hale 308-4258

Page 2

TOTAL FOR ALL FILES

L12 45876 (L1 OR L2 OR L3 OR L4 OR CARBOXYMETHYL CELLULOSE OR STARCH OR CELLULOSE XANTHANE OR GELLAN OR GELAN OR CHITIN OR CHITOSAN OR GUAR GUM OR PECTIN OR ALGINATE OR POLYSACCHARIDE) AND (ALCOHOL OR KETONE OR METHANOL OR ETHANOL OR ISOPROPANOL OR ACETONE)

=> s l12 and (crosslink? or cross link? or polyelectrolyte or polyvinylamine or polybrene or hexadimethrinbromide)

L13 21 FILE MEDLINE  
L14 1397 FILE CAPLUS  
L15 87 FILE BIOSIS  
L16 81 FILE EMBASE  
L17 954 FILE WPIDS  
L18 157 FILE JICST-EPLUS  
L19 38 FILE BIOTECHNO

TOTAL FOR ALL FILES

L20 2735 L12 AND (CROSSLINK? OR CROSS LINK? OR POLYELECTROLYTE OR POLYVINYLAMINE OR POLYBRENE OR HEXADIMETHRINBROMIDE)

=> s l20 and (fibers or fibres) and (solvent or water or water miscible)

L21 0 FILE MEDLINE  
L22 67 FILE CAPLUS  
L23 0 FILE BIOSIS  
L24 0 FILE EMBASE  
L25 59 FILE WPIDS  
L26 2 FILE JICST-EPLUS  
L27 0 FILE BIOTECHNO

TOTAL FOR ALL FILES

L28 128 L20 AND (FIBERS OR FIBRES) AND (SOLVENT OR WATER OR WATER MISCIBLE  
LE)

=> s l28 and (absorb? or diaper or incontinen? or sanitary(w) (pad or napkin))

L29 0 FILE MEDLINE  
L30 19 FILE CAPLUS  
L31 0 FILE BIOSIS  
L32 0 FILE EMBASE  
L33 21 FILE WPIDS  
L34 0 FILE JICST-EPLUS  
L35 0 FILE BIOTECHNO

TOTAL FOR ALL FILES

L36 40 L28 AND (ABSORB? OR DIAPER OR INCONTINEN? OR SANITARY(W) (PAD OR NAPKIN))

=> dup rem 136

PROCESSING COMPLETED FOR L36  
Prepared by M. Hale 308-4258

L37

37 DUP REM L36 (3 DUPLICATES REMOVED)

=> d cbib abs 1-37

L37 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2001 ACS  
2000:513742 Document No. 133:136091 High **water-absorbing**  
resin particles for paper **diapers**, sanitary or agricultural  
materials. Nagata, Manabu; Takemori, Shinichi; Ueyama, Hiroyuki;  
Ohnishi, Kazuaki; Yabe, Youko; Ishikawa, Norihiko (Sumitomo Seika Chemicals Co.,  
Ltd., Japan; Uni-Charm Corporation). PCT Int. Appl. WO 2000043441 A1  
20000727, 19 pp. DESIGNATED STATES: W: CA, CN, KR, US; RW: AT, BE, CH,  
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese).  
CODEN: PIXXD2. APPLICATION: WO 2000-JP271 20000121. PRIORITY: JP  
1999-16000 19990125.

AB Title particles are resin particles surface coated with 0.5-50% (based on  
100 parts resins) ethylene-glycidyl (meth)acrylate copolymers. Kneading  
100 parts Aqua Keep UG 310P particles with 20 parts Bondfast 7B at  
150.degree. and cooling gave particles showing **water** absorption  
34 g/g at 22 s (2-g the particles, 0.9% 500 mL aq. NaCl soln.) and good  
adhesion to polyolefin nonwoven cloths (falling out degree 0% and 23%  
initially and after **water** absorption, resp.).

L37 ANSWER 2 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 2000-571871 [53] WPIDS

AB WO 200047628 A UPAB: 20001023

NOVELTY - A microfibrillar **polysaccharide** (I) is derivatized  
with substituents which provide electrostatic and/or steric  
functionality,  
particularly anionic charge.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:  
(1) microfibrillar carboxymethylcellulose with a degree of  
substitution of 0.10-0.20;  
(2) a composition containing (I) and a **solvent** in which (I)  
is substantially insoluble;  
(3) a comestible composition containing (I);  
(4) a non-comestible composition containing (I);  
(5) a paper composition containing (I);  
(6) a method for preparation of (I);  
(7) a method of modifying the rheological properties of matter  
comprising incorporation of (I);  
(8) a method of improving the physical and/or mechanical properties  
of a coating composition by addition of (I);  
(9) a method of improving at least one of sizing, strength, scale  
control, drainage, dewatering, retention, clarification, formation,  
adsorbency, film formation, membrane formation and **polyelectrolyte**  
complexation during paper manufacture by addition of (I);  
(10) a system comprising an emulsion, dispersion or foam containing  
(I); and  
(11) a **polyelectrolyte** complex comprising (I).

USE - (I) may be used in:

(a) foods;

(b) personal care products, such as sunscreens, moisturizing or  
anti-aging creams or lotions, cleaning soaps or gels, antiperspirants and  
deodorants, fragrance releasing gel, lipsticks, lip gloss and liquid make

up, oral care products (e.g. toothpaste, tooth polishing and whitening agents and denture care products), wound care, dressings, ostomy rings and

other products where good liquid retention is desirable and absorbent products such as diapers;

(c) household products, such as detergents, shampoos, cleaners and air fresheners, particularly laundry products, rug and upholstery shampoos, toilet bowl cleaners, air fresheners and general purpose cleaning agents;

(d) pharmaceuticals, including delayed, controlled or sustained release formulations or as disintegrants, dietary fiber or rheology modifiers;

(e) nutraceuticals;

(f) paper manufacture and treatment, particularly for emulsion modification or stabilization, sizing, retention, clarification, absorbance, drainage, formation, deposit or scale control, water treatment, dewatering, film and membrane formation, polyelectrolyte crosslinking, removal of organic or inorganic material, in paper coating and to improve e.g. stiffness, wet strength, absorbancy, softness, toughness, tear resistance and fold resistance;

(g) coating compositions such as paints and inks as rheology modifiers to improve spatter, leveling, sag resistance, flooding and floating;

(h) water treatment, for scale control, clarification, flocculation, sedimentation, coagulation, charge delivery and softening;

(i) drilling fluids as rheology modifiers to reduce or prevent fluid loss and improve secondary oil recovery;

(j) agriculture in soil treatments for moisture retention, erosion resistance, frost resistance, as crop protectants and for controlled, sustained or delayed release of agrochemicals such as fertilizers, pesticides, fungicides and herbicides;

(k) construction, particularly in dry wall muds, caulk, water soluble adhesives and board manufacture; and

(l) spill control and/or recovery (all claimed).

ADVANTAGE - The lack of cationic substituents makes (I) suitable for food use and (I) forms a gel at a concentration of 1% or less. (I) also forms emulsions, such as those used for paper sizing, with better long term stability than prior art emulsions made from cationic starches and sulfonates.

A slurry was formed from microfibrillated carboxymethylcellulose (8 g), Germaben II (biocide, 4 g) and deionized water (788 g) was processed in a homogenizer for 20 minutes at 3000 psi, then transferred into a capped jar. On rheological examination, the slurry showed yield stress of 8.08 Pa and G' of 256 Pa at 5.75 Pa. A 1% slurry of non-derivatized, microfibrillated cellulose settled out over time and did not display gel properties.

Dwg.0/9

L37 ANSWER 3 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 2001-082596 [10] WPIDS

CR 1992-098287 [13]

AB EP 1059117 A UPAB: 20010220

NOVELTY - Production of an absorption material for water, aqueous solutions or bodily fluids from a water-swellable synthetic (co)polymer (A) and a natural or synthetic polymer (B) which is  
Prepared by M. Hale 308-4258 Page 5

a flowable powder at normal temperatures and which is insoluble or only difficultly soluble in **water** comprises adding dry or partly swollen (B) to the production system for (A) at a conversion to (A) of at least 30 (especially at least 60)%, mixing with polymer (A) gel and then drying the product.

USE - Claimed uses are in (i) absorption or retention of **water**, aqueous solutions or (especially) bodily fluids such as blood or urine in disposable articles for hygienic, surgical or other medical uses, e.g. **diapers**, tampons or **sanitary napkins**; and (ii) uptake or retention of **water** and/or aqueous solutions, followed by controlled transfer of the **water** or dissolved substances to another body. A disclosed example of (ii) is

in soil improvers. A further disclosed use is in drying of gases or liquids, especially organic, **water-immiscible** liquids or **solvents**

ADVANTAGE - Materials with low absorption character can be bonded in large amounts to highly **absorbent** materials without too large an adverse effect on the absorption performance of the latter. This is accompanied by an improvement in the biodegradability of the high absorption material.

Dwg.0/0

L37 ANSWER 4 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 2000-680964 [67] WPIDS

CR 2000-595483 [50]

AB EP 1035239 A UPAB: 20001223

NOVELTY - An **absorbent**, flexible structure comprises pseudo-thermoplastic **starch fibers**.

USE - For use as substitutes for paper products, e.g. paper towels, napkins, toilet tissues, facial tissues, place mats, or wet pipes.

ADVANTAGE - The structure (10-450 g/m<sup>2</sup>) has a geometric mean dry tensile strength of 10-1200 g/cm, an initial geometric mean wet tensile strength of 2-400 g/cm, a geometric mean decayed wet tensile strength of 0-20 g/cm, a total flexibility of 1-75 g/cm, and an **absorbency** of 1-15 g-**water**/g-dry structure (claimed). It has improved tensile strength, softness, and **absorbency** properties, while maintaining biodegradability and flushability.

Dwg.0/7

L37 ANSWER 5 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 2000-595483 [57] WPIDS

AB EP 1035163 A UPAB: 20001223

NOVELTY - A **starch** composition comprises (wt.%) a **starch** with an average molecular weight of 1000-2000000 (20-99.99); and a high polymer with an average molecular weight of at least 500000 (0.001-10). The polymer is compatible with the **starch**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMs are also included for: (i) the process for preparing the composition comprising mixing the **starch**, the high polymer, and additive(s) from a plasticizer with hydroxyl group(s), a hydroxyl-free plasticizer, and/or a diluent; and feeding and extruding the mixture; (ii) a fiber comprising the claimed composition; and (iii) a film comprising the claimed composition.

USE - The composition is used in uniaxial or biaxial extensional processes for producing **fibers**, films, sheets, foams, or shaped articles. The fiber may be used in filters for air, oil, and **water**

; vacuum cleaner filter; furnace filter; face mask; coffee filter; tea or coffee bag; thermal and sound insulation materials; nonwoven for one-time use product, e.g. **diaper**; biodegradable textile fabric, e.g. microfiber or breathable fabric; reinforcement and web for hard grades of paper, e.g. wrapping paper; medical use, e.g. surgical drapes; and dental use, e.g. dental floss. The transparent film may be used as food wrap, shrink wrap, or windowed envelope. The articles may find use as bag, e.g. shopping bag; pouch for storage or cooking; microwavable container for frozen food; and pharmaceutical use, e.g. capsule for medicine.

**ADVANTAGE** - The composition has melt shear viscosity of less than 50 Pa.s and extensional viscosity of at least 10 times greater than a comparative composition having no high polymer. It is melt processable on conventional thermoplastic equipment, e.g. screw extruders, stir tanks, pumps, and spinnerets which results in less interruptions in the process, e.g. reduced breakage, shots, defects, and hang-ups. It does not require

a

large quantity of **solvents** or produce a large amount of effluent during the processing operation. It has rheological properties to achieve very high uniaxial or biaxial extensions in melt attenuation processes, including jet or mechanical elongation processes. It also produces products with better surface appearance and properties.

Dwg.0/3

L37 ANSWER 6 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 2000-207899 [19] WPIDS

AB EP 976383 A UPAB: 20000419

NOVELTY - Cosmetic skin treatment with a patch comprising a polymer matrix

on a support, where the matrix is self-adhesive on dry skin and contains one or more cosmetically active ingredients and one or more **water-absorbing** materials.

**DETAILED DESCRIPTION** - Cosmetic skin treatment with a patch comprising a polymer matrix on a support, where the matrix is self-adhesive on dry skin and contains one or more cosmetically active ingredients and one or more **water-absorbing** materials, comprises either:

(a) applying the patch to dry skin and then removing it to remove impurities from the skin; or

(b) applying the patch to wet skin so that the **water-absorbing** materials

(i) partially dry the skin so that the matrix still adheres to the skin (though less strongly than to dry skin) and

(ii) **absorb water** and thereby redissolve the

active ingredients so that they are in contact with the skin throughout the period of application.

An INDEPENDENT CLAIM is also included for the patch.

USE - Skin cleansing or skin care.

Dwg.0/0

L37 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2001 ACS

1999:405022 Document No. 131:63475 Process for the preparation of aqueous dispersions of particles of **water-soluble** polymers for drug delivery. Vanderhoff, John W.; Lu, Cheng Xun; Lee, Clarence C.; Tsai, Chi-Chun (C.R. Bard, Inc., USA; Lehigh University). PCT Int. Appl. WO 9931167 A1 19990624, 114 pp. DESIGNATED STATES: W: IN, JP; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. Prepared by M. Hale 308-4258

Page 7

(English). CODEN: PIXXD2. APPLICATION: WO 1998-US26094 19981209. PRIORITY: US 1997-989888 19971212.

AB The invention is a process for the prepn. of **crosslinked water**-swellable polymer particles. First, an aq. polymer soln. contg. a **water**-sol. polymer having at least one functional group or charge, is combined with aq. medium. The aq. polymer soln. is then mixed under moderate agitation with an oil medium and an emulsifier to form an emulsion of droplets of the **water**-sol. polymer. A **crosslinking** agent capable of **crosslinking** the functional groups and/or charges in the **water**-sol. polymer is then added to the emulsion to form **crosslinked water**-swellable polymer particles. The invention also includes the particles formed by the process and aq. dispersions contg. the particles which are useful for administering to an individual. The particles of the invention are useful for implantation, soft tissue augmentation, and scaffolding to promote cell growth. Microspheres were obtained from **crosslinked** droplets of Na **alginate**/Me cellulose by dispersing 50.0 g **water** contg. 2.25 g Na **alginate** and 0.25 g Methocel K4M in 75.0 g isoocatane contg. 1.5 g Span 85; then 5.0 g **water** contg. 1.0 g Tween 85 was added, and the dispersion was stirred. The droplets formed by the dispersion were **crosslinked** with an equiv. amt. of the XAMA-7 **crosslinking** agent and then **isopropanol** was added to dehydrate and harden the **crosslinked** microspheres.

L37 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2001 ACS  
2000:36684 Document No. 132:181976 Biodegradable nonwoven with high **water** absorptivity. Zhang, Yue-ting; Hu, Shao-hua; Yu, He-Zhuo; Wang, Shu-zhong (State Key Lab. for Modification of Chemical Fiber and Polymer Materials East China University, Shanghai, 200051, Peop. Rep. China). Gongneng Gaofenzi Xuebao, 12(4), 389-392 (Chinese) 1999. CODEN: GGXUEH. ISSN: 1004-9843. Publisher: Gongneng Gaofenzi Xuebao Bianjibu.

AB Poly(acrylic acid) grafted **starch** was synthesized. Thick liq. of poly(acrylic acid) grafted **starch** was coated on poly(vinyl **alc.**) (PVA) nonwoven fiber to get nonwoven with high **water** absorptivity. The effect of ratio of grafting monomer, **crosslinking** condition, wt. of **absorbed** thick liq. in the nonwoven and the nature of the nonwoven on the absorptivity of the nonwoven were discussed. The biodegradability of PVA nonwoven with high **water** absorptivity was also detd.

L37 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2001 ACS  
1998:488296 Document No. 129:176897 Solutions for imparting stimulus-responsive opening properties to **fibers** for manufacture of nonwoven fabrics openable in alkali solutions. Omura, Isao; Nakada, Yoichi (Pigeon Corp., Japan). Jpn. Kokai Tokkyo Koho JP 10195770 A2 19980728 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-345228 19961225.

AB The title solns. are prep'd. by dissolving or dispersing mixts. contg. cationic polymers and anionic polymers in aq. solns. The solns. are useful for manuf. of sanitary products, disposable **diapers**, and wiping cloths flushable in toilets (no data). A nonwoven fabric comprising rayon 90, poly(vinyl **alc.**) **fibers** 6, and Vinyロン **fibers** 4% was coated with an aq. soln. contg. 0.5% Hiviswako 103 (carboxyvinyl polymer) and 0.5% Leogard GP (cationized

cellulose) and dried to give a nonwoven fabric with resin content 0.02 g/100 cm<sup>2</sup>. Fiber dispersibility and opening properties were good on stirring the nonwoven fabric in an aq. soln. (pH 9.0) for 30 s.

L37 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2001 ACS

1997:552656 Document No. 127:163061 Manufacture of **polysaccharide fibers** as **absorbent** materials and **polysaccharide fibers** and **absorbent** articles therefrom. Malmgren, Kent; Widberg, Bengt (SCA Molnlycke Ab, Swed.; Malmgren, Kent; Widberg, Bengt). PCT Int. Appl. WO 9725463 A1 19970717, 29 pp. DESIGNATED

STATES:

W: AU, CZ, JP, KR, MX, PL, RU, SK, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2.

APPLICATION: WO 1996-SE1698 19961218. PRIORITY: SE 1996-87 19960110.

AB The **fibers** are prep'd. by spinning solns. contg.

**polysaccharides** in a bath contg. **water-miscible**

org. **solvents** and **crosslinking** agents. The

**fibers** are useful for **diapers** and **sanitary**

**napkins** (no data). A soln. contg. CM-cellulose was spun into a

bath contg. 95 vol% EtOH, 5 vol.% H<sub>2</sub>O, and 3 g/L AlCl<sub>3</sub>. 6H<sub>2</sub>O, drawn in

the

bath, and washed with EtOH to give **fibers** exhibiting total

synthetic urine absorption amt. 29.9 g/g by a specified test.

L37 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 1

1996:191588 Document No. 124:263928 Low-density materials having high surface areas and articles formed from them. Unger, Peter D.; Rohrbach, Ronald P. (Alliedsignal Inc., USA). U.S. US 5494940 A 19960227, 17 pp., Cont.-in-part of U. S. Ser. No. 811,757, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1993-27975 19930308. PRIORITY: US 1991-811757 19911220.

AB **Crosslinked**, highly porous bodies derived from a **water**

-sol. hydrogel polymer have an open-celled 3-dimensional lattice structure, a d. of .ltorsim.1.0 g/cm<sup>3</sup>, a surface area of .gtorsim.30

m<sup>2</sup>/g,

and a compression strength of .ltorsim.75% yield at 300 psi. The porous bodies are suitable for many industrial applications, such as insulating materials, **fibers**, **absorbents**, adsorbents, ion-exchange resins, membranes and support materials for a wide variety of

uses.

L37 ANSWER 12 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1996-362002 [36] WPIDS

CR 1993-227102 [28]; 1995-185752 [24]; 1996-139065 [14]; 1996-286452

[29]

AB US 5541234 A UPAB: 19970619

A **crosslinked**, highly porous body is made by: (a) dissolving a hydrogel (co)polymer from **alginates**, gums, **starch**, dextrins, agar, gelatins, casein, collagen, polyvinyl **alcohol**, polyethyleneimine, acrylate polymers, and/or **starch/acrylate** copolymers in a gelling **solvent**; (b) forming a gel in the desired configuration; (c) gradually replacing the gelling **solvent** with a **crosslinking solvent** using a concn. gradient **solvent** exchange process; and (d) isolating the **crosslinked** gel from the **solvent**; the body being

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characterised by an open celled 3-dimensional lattice structure, density <1.0 g/cm<sup>3</sup>, surface area at least 30 m<sup>2</sup>/g, and compression strength at least 75% yield at 300 psi.

Also claimed is a process for making a body characterised as above, using a freeze-drying process.

USE - In the prodn. of insulating materials, **fibres**, **absorbents**, adsorbents, ion-exchange resins, membranes and support materials.

ADVANTAGE - The processes provide highly porous bodies with low density and high surface area as well as high pore vol. and excellent strength. Dimensional stability even after thorough de- and re-hydration is obtd., esp: at the high levels of **crosslinking** which are not obtainable by prior art processes, and diverse chemical modification of the gel can be performed at any stage.

Dwg.0/6

L37 ANSWER 13 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1996-216264 [22] WPIDS

AB JP 08080318 A UPAB: 19960604

A liq.-**absorbing** sheet has a liq.-**absorbing** sheet-shaped layer between a liq.-permeable and a liq.-impermeable sheet. Pref. the layer comprises a high-**water-absorption** resin(s), a filtration assistant(s), a fibre(s) and an alkylene oxide type polymer(s).

Pref. the layer had a porous sponge-like structure.

The high-absorption resins include **crosslinked** sodium polyacrylate polymers, acrylic acid-vinyl alcohol copolymers, saponified vinyl acetate-methyl acrylate copolymers, hydrolysed **starch-acrylonitrile** graft copolymers and **cross-linked** polyethylene oxide modified prods.. The alkylene oxide type polymers include polyethylene oxide and polyoxyethylene glycol type cpds..

Pref. the **fibres** include cellulose type **fibres**. The assistant is typically diatomaceous earth, activated charcoal, talc and/or perlite.

USE - The sheet is used for treating bed wetting or as a sheet for care of patients and a body-fluid-**absorbing** sheet during operations.

ADVANTAGE - The sheet has a high absorption per unit area, a high initial **water-absorbing** rate and high **water** absorption.

Dwg.0/0

L37 ANSWER 14 OF 37 CAPLUS COPYRIGHT 2001 ACS

1995:828566 Document No. 123:237910 **Cross-linked**

**polysaccharides** used as **absorbant** materials. Cottrell, Ian William; Chowdhary, Manjit Singh; Goswami, Animesh (Rhone-Poulenc Specialty Chemicals Co., USA). Eur. Pat. Appl. EP 668078 A2 19950823, 18 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, NL, SE.

(French).

CODEN: EPXXDW. APPLICATION: EP 1995-400287 19950213. PRIORITY: US 1994-196357 19940215; US 1994-274591 19940713.

AB **Absorbant** materials comprise **cross-linked** **polysaccharides**. Thus, 20 g guar carboxymethyl was dissolved in 2 L of 45-50.degree. **water**, then 2.25 mL of a soln. of zirconium Prepared by M. Hale 308-4258

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sodium lactate was added thereto and the mixt. was then dried. The absorption capacity of the powder was 48.5 g/g.

L37 ANSWER 15 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1995-185752 [24] WPIDS  
CR 1993-227102 [28]; 1996-139065 [14]; 1996-286452 [29]; 1996-362002  
[36]

AB WO 9512632 A UPAB: 19960918

A **crosslinked**, highly porous body (I) derived from a **water-soluble** hydrogel polymer (II) has an open-celled 3-D lattice structure, a density of below 1.0 g/cm<sup>3</sup> a surface area of 30 m<sup>2</sup>/g or above, a compression strength of 10% or less yield at 10 psi, and an average pore dia. of below 1000 Angstroms. The hydrogel polymer is selected from **alginates**, gums, **starch**, dextrins, agar, gelatins, casein, collagen, polyvinyl **alcohol**, polyethylenimine, acrylate polymers and/or **starch/acrylate** copolymers, and copolymers thereof.

Also claimed are: (1) a solid panel or monolith formed from (I); (2) a powder derived from (II) and having an average particle dia. of 1-10μm (3) prepн of (I) comprising dissolving (II) in a gelling **solvent**, forming a gel, gradually replacing the gel with a **crosslinking solvent** and then **crosslinking** the gel; and (4) a prepн. as in (3) where the gelling **solvent** contains a surfactant an elastomeric additive or polyol and where the gel is freeze-dried prior to addition of the **crosslinking solvent**.

Pref. (I) is derived from **guar gum** and **crosslinked** with sodium tetraborate, boric acid or melamine. The powder has an average pore dia. of 100-400 angstroms. The prepн. uses a concentration gradient **solvent** exchange process which utilises an intermediate **solvent** that is miscible with both the gelling **solvent** and the **crosslinking solvent**. The intermediate **solvent** is selected from **alcohols**, acetates, **ketones**, dimethylsulphoxide, dimethylformamide, methylene chloride, ethylene chloride, THF, dioxane etc.

USE - (I) is used for insulating materials, **fibres**, **absorbents**, adsorbents, ion-exchange resins, membranes, support materials, e.g. filter media, and in the storage and transport of chemicals. When (II) is **guar gum** the resulting prod. is partic. useful for thermal insulation applications.

ADVANTAGE - (I) has low density, high surface area, high pore volume and excellent strength characteristics. It also has excellent dimensional stability even after thorough dehydration and rehydration esp. at high levels of **crosslinkage**. A further advantage is the diversity of chemical modification which can be performed on the gel-forming prior to during or after isolation of (I).

Dwg.0/6

ABEQ US 5502082 A UPAB: 19960503

A covalently **crosslinked**, highly porous body derived from a **water-soluble**, hydrogel polymer, said porous body being characterized in that it has an open-celled 3-dimensional lattice structure, a density of less than about 1.0 g/cm<sup>3</sup>, a surface area of equal

to or greater than about 30 m<sup>2</sup>/g, and a compression strength of equal to or less than about 10% yield at 10 psi, and an average pore diameter of from about 50 Angstroms to about 500 Angstroms wherein said hydrogel polymer is selected from the group consisting of **alginates**,  
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gums, starch, dextrins, agar, gelatins, casein, collagen, polyvinyl alcohol, polyethylenimine, acrylate polymers, starch/acrylate copolymers, and mixtures and copolymers thereof.  
Dwg.0/6

L37 ANSWER 16 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1995-083222 [12] WPIDS  
AB EP 638679 A UPAB: 19950328

A **water-absorbent** nonwoven fabric comprises synthetic **fibres** and **water-absorbent** cellulosic **fibres** intertwined with each other, the cellulosic **fibres** comprising a **crosslinked carboxymethyl cellulose** having a degree of substitution with carboxymethyl gpc. of 0.35-1.6. The fabric has a wet tensile strength of 0.1-10.0 kgf/25mm (determined in accordance with Japanese Industrial Standard P 8135) and a pure **water** absorption of 25-160 times the dry wt. of the nonwoven fabric. Also claimed is a process for producing the fabric comprising the steps: (a) forming a precursory nonwoven web in which synthetic **fibres** and cellulose **fibres** are intertwined with each other; (b) subjecting the cellulosic **fibres** in the precursory web to a carboxymethylating treatment with monochloroacetic acid salt in the presence of an alkali metal hydroxide in a reaction medium consisting of **water** and/or a 2-4C aliphatic alcohol; and (c) subjecting the resultant **carboxymethyl cellulose fibres** in the precursory web to a **crosslinking** treatment with a **crosslinking** agent. The **crosslinking** step (c) may be carried out prior to step (b), simultaneously to step (b) or subsequently to step (b).

USE - The fabric is useful as a hygienic material, e.g. a disposable **diaper** or **sanitary napkin**; an agricultural material, e.g. soil **water**-retaining agent or a seedbed sheet; a food-related material e.g. a freshness-keeping material; and a building material, e.g. a **water** condensation-preventing material.

ADVANTAGE - The fabric is free from the disadvantages of conventional

high **water-absorbent** materials, has a high **water**-absorption similar to conventional high **water-absorbent** resins and exhibits a satisfactory softness, hard feeling and processability and a satisfactory mechanical strength even after **absorbing water**.

Dwg.0/0

L37 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2001 ACS  
1994:638467 Document No. 121:238467 Multilayer nonwoven tissue containing a surface layer comprising at least one hyaluronic acid ester. Dorigatti, Franco; Callegaro, Lanfranco (Fidia Advanced Biopolymers S.r.L., Italy). PCT Int. Appl. WO 9417837 A1 19940818, 23 pp. DESIGNATED STATES: W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1994-EP397 19940211. PRIORITY: IT 1993-PD24 19930212.

AB A multilayer nonwoven material, comprising a surface layer which comes into contact with the skin, such as hyaluronic acid ester, and one or more

other layers which do not come into contact with the skin. This material can be employed in a wide variety of medical and sanitary applications, including surgery and as a non-adhesive covering material. A multilayer nonwoven tissue composed of a layer of hyaluronic acid benzyl ester

(Hyaff

11) and a layer of nonwoven viscose (Jettex 2005), with 2mm thickness and **water** absorption of 56% was prep'd.

L37 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2001 ACS

1994:325653 Document No. 120:325653 **Water-absorbent**

**water-insoluble fibers** and films and their manufacture.

Akers, Paul John; Brunskill, William (Courtaulds PLC, UK). PCT Int.

Appl.

WO 9324684 A1 19931209, 22 pp. DESIGNATED STATES: W: CA, JP, US; RW:

AT,

BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English).  
CODEN: PIXXD2. APPLICATION: WO 1993-GB1012 19930518. PRIORITY: GB  
1992-10955 19920522.

AB **Fibers or films of water-absorbent**

**water-insol.** fibrous material have a matrix of a  
**crosslinked** copolymer formed from 50-95 wt.% ethylenically unsatd.  
carboxylic monomer and 5-50 wt.% copolymerizable ethylenically unsatd.  
monomer. The matrix contains regions of dispersed polymeric material,

the

matrix copolymer and the dispersed polymeric material being mutually  
immiscible and substantially nonreactive under ambient conditions. The  
fiber or film can be produced by extruding a soln. or dispersion of the  
polymeric material in a soln. of the matrix copolymer in its  
noncrosslinked state into a gaseous environment. A fiber was spun from a  
dispersion of Na acrylate-hexapropylene glycol monomethacrylate-Me  
methacrylate copolymer contg. 38 wt.% solids and 2 wt.% poly(vinyl  
alc.) and **crosslinked** to give a fiber which had a  
relatively high **absorbency** under load.

L37 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2001 ACS

1992:237096 Document No. 116:237096 Process for manufacturing **water**  
adsorbing material and its use in sanitary articles and in soil  
amelioration. Chmelir, Miroslav (Chemische Fabrik Stockhausen G.m.b.H.,  
Germany). Eur. Pat. Appl. EP 476574 A2 19920325, 14 pp. DESIGNATED  
STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE.  
(German). CODEN: EPXXDW. APPLICATION: EP 1991-115708 19910917.  
PRIORITY: DE 1990-4029593 19900919.

AB A powd. natural or synthetic polymer (e.g., **polysaccharide**)  
showing little or no solv. in **water** is added during the prepn.  
of a **water-sol.** synthetic polymer (e.g., acrylic  
acid-methylenebisacrylamide copolymer), giving a material which  
**absorbs water**, urine, blood, etc.

L37 ANSWER 20 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1992-398822 [48] WPIDS

CR 1992-374695 [46]

AB WO 9219680 A UPAB: 19991215

A polymeric compsn. is obt'd. from a melt comprising (I) a **starch**  
component and (II) a synthetic thermoplastic component comprising a  
polymer(s) (A) selected from: (a) homopolymers of 2-24C aliphatic  
hydroxyacids and corresp. lactones or lactides, and their copolymers with  
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monomers selected from other 2-24C aliphatic hydroxyacids and corresp. lactones or lactides, aromatic hydroxyacids and aliphatic or aromatic isocyanates; (b) block or graft copolymers between polymers of (a) and component(s) selected from (i) cellulose or modified cellulose, e.g. cellulose acetate or carboxymethylcellulose, (ii) amylose, amylopectin and

natural or modified **starches**, (iii) polymers obtd. by reacting diols, polyester prepolymers or diol-terminated polymers with aromatic or aliphatic bi-functional isocyanates or epoxides, bicarboxylic (cyclo)aliphatic acids or aromatic acids or anhydrides, (iv) polyurethanes, polyamide-urethanes, polyamides, polyester-amides or polyester-ureas, (v) polyhydroxylated polymers, e.g. polyvinylalcohol, (partially) hydrolysed ethylene-vinyl **alcohol** copolymers or **polysaccharides** up to dextrines; (vi) polyvinyl-pyrrolidone (-vinyl acetate copolymers) or polyethoxazolines, and (vii) ionomeric polymers selected from poly(meth)acrylates; and (c) polyester obtd. from (co)monomers as (a) chain extended with isocyanate, epoxide, phenylester or aliphatic carbonate, or partially **crosslinked** with polyfunctional acids selected from trimellitic and pyromellitic acids, polyisocyanate and polyepoxide. Opt. a plasticiser is included in the compsn.

USE/ADVANTAGE - The biodegradable compsn. is easily processed into claimed films, sheets, **fibres** and filaments having a high biodegradation rate and improved mechanical properties and/or water-resistance.

0/0

ABEQ EP 539541 A UPAB: 19931112

A polymeric compsn. is obtd. from a melt comprising (I) a **starch** component and (II) a synthetic thermoplastic component comprising a polymer(s) (A) selected from: (a) homopolymers of 2-24C aliphatic hydroxyacids and corresp. lactones or lactides, and their copolymers with monomers selected from other 2-24C aliphatic hydroxyacids and corresp. lactones or lactides, aromatic hydroxyacids and aliphatic or aromatic isocyanates; (b) block or graft copolymers between polymers of (a) and component(s) selected from (i) cellulose or modified cellulose, e.g. cellulose acetate or carboxymethylcellulose, (ii) amylose, amylopectin and

natural or modified **starches**, (iii) polymers obtd. by reacting diols, polyester prepolymers or diol-terminated polymers with aromatic or aliphatic bi-functional isocyanates or epoxides, bicarboxylic (cyclo)aliphatic acids or aromatic acids or anhydrides. (iv) polyurethanes, polyamide-urethanes, polyamides, polyester-amides or polyester-ureas, (v) polyhydroxylated polymers, e.g. polyvinylalcohol, (partially) hydrolysed ethylene-vinyl alchol copolymers or **polysaccharides** up to dextrins; (vi) polyvinyl-pyrrolidone (-vinyl acetate copolymers) or polyethoxazolines, and (vii) ionomeric polymers selected from poly(meth)acrylates; and (c) polyester obtd. from (co)monomers as (a) chain extended with isocyanate, epoxide, phenylester or aliphatic carbonate, or partially **crosslinked** with polyfunctional acids selected from trimellitic and pyromellitic acids, polyisocyanate and polyepoxide. Opt. a plasticiser is included in the compsn..

USE/ADVANTAGE - The biodegradable compsn. is easily processed into claimed films, sheets, **fibres**, and filaments having a high biodegradation rate and improved mechanical properties and/or water-resistance.

ABEQ EP 560244 A UPAB: 19931123

A polymeric compsn. is obt. from a melt comprising (I) a **starch** component and (II) a synthetic thermoplastic component comprising a polymer(s) (A) selected from: (a) homopolymers of 2-24C aliphatic hydroxyacid(s) and corresp. lactones or lactide(s), and their copolymers with monomers selected from other 2-24C aliphatic hydroxyacid(s) and corresp. lactones or lactide(s), aromatic hydroxyacid(s) and aliphatic or aromatic isocyanates; (b) block or graft copolymers between polymers of (a) and component(s) selected from (i) cellulose or modified cellulose, e.g. cellulose acetate or CMC, (ii) amylose, amylopectin and natural or modified **starches**, (iii) polymers obt. by reacting diols, polyester prepolymers or diol-terminated polymers with aromatic or aliphatic bi-functional isocyanates or epoxides, di:carboxylic (cyclo)aliphatic acids or aromatic acids or anhydrides, (iv) polyurethanes, polyamide-urethanes, polyamides, polyester-amides or polyester-ureas, (v) polyhydroxylated polymers, e.g. PVA, (partially) hydrolysed ethylene-vinyl **alcohol** copolymers or **polysaccharides** up to dextrines; (vi) polyvinyl-pyrrolidone (-vinyl acetate copolymers) or polyethyloxazolines, and (vii) ionomeric polymers selected from poly(meth)acrylates; and (c) polyester obt. from (co)monomers as (a) chain extended with isocyanate, epoxide, phenylester or aliphatic carbonate, or partially **crosslinked** with polyfunctional acids selected from trimellitic and pyromellitic acids, polyisocyanate and polyepoxide. Opt. a plasticiser is included in the compsn.

USE/ADVANTAGE - The biodegradable compsn. is easily processed into claimed films, sheets, **fibres** and filaments having a high biodegradation rate and improved mechanical properties and/or **water-resistance**.

Dwg.0/11

ABEQ US 5286770 A UPAB: 19940329

An **absorbent** article comprises (a) a liq. pervious topsheet; (b) a liq. impervious backsheet joined to the topsheet, in which the backsheet

comprises a flexible **starch**-based film comprising (i) **starch**; (ii) at least one synthetic thermoplastic polymer e.g. (aa) polyvinyl **alcohol**; (bb) copolymers of an olefin e.g. ethylene, propylene, isobutene, styrene and their combinations with acrylic acid, vinyl **alcohol**, vinyl acetate, and their combinations; and (cc) their mixts.; (iii) 0.5-20 wt.% urea based on the total wt. of the film; (iv) moisture; and (v) 5-25 wt.% plasticiser, based

on the total wt. of the film. e.g. mono-ethoxylate, di-ethoxylate, mono-propoxylate, di-propoxylate, mono-acetate derivs. of sorbitol, di-acetate derivs. of sorbitol or mixts.; and (c) an **absorbent** core positioned between (a) and (b). (i) and (ii) form an at least partially interpenetrated network.

USE/ADVANTAGE - The article is useful as **diapers**, **sanitary napkins**, pantiliners etc. The articles have improved compostability.

Dwg.0/0

ABEQ US 5412005 A UPAB: 19950619

Polymeric compsn. is obt. from a melt contg. (i) a **starch**; (ii) a plasticiser; and (iii) a synthetic thermoplastic polymer.

Polymer comprises (a) a homopolymer of (2-24C) aliphatic hydroxyacid,

its lactone or lactide; (b) a copolymer of this with a second hydroxyacid,  
etc.; (c) a block or graft copolymer between (a) or (b) with e.g. (modified) cellulose, amylose, amylopectin, **starch**, reaction polymeric prod. of a diol, etc.; (d) polyester obtd. from (a) or (b) upgraded with chain extenders; and/or (e) corresp. polyesters partially **crosslinked** using polyfunctional acids. Wt. ratio (i):(iii) is 1:9-9:1.

ADVANTAGE - High biodegradation rate and improved mechanical properties and/or improved **water**-resistance and low permeability to **water** vapour.

Dwg.0/0

ABEQ US 5462980 A UPAB: 19951211

The polymeric compsn. which can be produced from a melt comprising (i) a starchy material (I); (ii) a synthetic, thermoplastic, polymeric component

(II); and (iii) 2-7 wt.% of urea, wrt. wt. of the total compsn., where (I)

includes 78 wt.% or more, pref. 80 wt.% or more, of amylopectin.

Pref. wt. ratio of (I):(II) is 1:4-9:1.

USE/ADVANTAGE - Barrier sheets and films. Improved liq. and gas barrier properties.

Dwg.0/11

ABEQ EP 539541 B UPAB: 19970806

A polymeric composition obtainable by extruding under temperature and shear conditions to render the polymeric components compatible from the rheological view point a melt comprising a **starch** component and a synthetic thermoplastic polymer component selected from the group consisting of one of the following polymers or mixtures of polymers: a) homopolymers of aliphatic hydroxy acids having from 2 to 24 carbon atoms, the corresponding lactones or lactides; b) copolymers of aliphatic hydroxy

acids having from 2 to 24 carbon atoms, the corresponding lactones or lactides with monomers selected from the group consisting of aliphatic hydroxy acids having from 2 to 24 carbon atoms other than that constituting the first monomer, corresponding lactones or lactides, aromatic hydroxy acids, aliphatic or aromatic isocyanates; c) block or graft copolymers between the homopolymers and copolymers a) or b) with one

or more of the following components: i) cellulose or modified cellulose such as cellulose acetate, carboxymethylcellulose; ii) amylose, amylopectin, natural or modified **starches**; iii) polymers deriving from reaction of diols, polyesters pre-polymers or polymers having diol terminal groups with: - aromatic or aliphatic bifunctional isocyanates, - aromatic or aliphatic bifunctional epoxides, - aliphatic dicarboxylic acids, - dicarboxylic cycloaliphatic acids, - aromatic acids or anhydrides, iv) polyurethanes, polyamide-urethanes from diisocyanates and aminoalcohols, polyamides, polyesters-amides from dicarboxylic acids and aminoalcohols, polyester-urea from amino acids and diesters of glycols, v) polyhydroxylated polymers selected from the group consisting of polyvinylalcohol, ethylene-vinylalcohol copolymers, totally or partially hydrolysed and **polysaccharides** up to destrines; vi) polyvinylpyrrolidone, polyvinylpyrrolidone-vinylacetate copolymers, polyethyloxazolines; vii) ionomeric polymers selected from polyacrylates and polymethacrylates; d) polyesters obtained from monomers or comonomers such as defined above at a) and b) upgraded with chain extenders selected

from the group consisting of isocyanates, epoxides, phenylesters and aliphatic carbonates; e) polyesters obtained from monomers and comonomers defined at a) and b) above partially **cross-linked** by means of polyfunctional acids selected from the group consisting of trimellitic acid, pyromellitic acid, polyisocyanates and polyepoxides, the compositions obtained from the following components being excluded: - starch, a synthetic polymer selected from ethylene-vinylalcohol copolymers, polyvinylalcohol and modified polyvinylalcohol and mixtures thereof, a second synthetic component selected from a) and b) polymers and a plasticiser other than sorbitol and acetic acids esters of glycerine and selected from the following groups: - polyols containing from 1 to 20 repeating hydroxylated units each unit including from 2 to 6 carbon atoms, provided that when the polyol is formed by only one repeating unit it has at least 4 carbon atoms; - ethers, thioethers, inorganic and organic esters, acetals and amino-derivatives of polyols, formed by from 1 to 20 repeating hydroxylated units each including from 2 to 6 carbon atoms; - polyol reaction products having from 1 to 20 repeating hydroxylated units each including from 2 to 6 carbon atoms with chain extenders; - polyol oxidation products having from 1 to 20 repeating hydroxylated units each including from 2 to 6 carbon atoms including at least one aldehydic or carboxylic functional group or mixtures thereof.

Dwg.0/0

L37 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2  
1991:537898 Document No. 115:137898 Superabsorbent wet-lay nonwoven product.

Kim, Dai W.; Nielsen, Steven F. (Hoechst Celanese Corp., USA). Eur. Pat. Appl. EP 437816 A1 19910724, 8 pp. DESIGNATED STATES: R: BE, CH, DE, FR,

GB, IT, LI, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1990-125248 19901221. PRIORITY: US 1990-464798 19900116.

AB A superabsorbent nonwoven wet-lay material is prepd. by (a) blending superabsorbent polymer particulate with a liq. to form a slurry; (b) mixing with fabrics to give a slurry/fiber mixt.; (c) filtering (b) mixt. to remove part of liq.; and (d) drying to the superabsorbent polymer/fiber mixt. material. Thus, to 0.5 g stirred superabsorbent polymer particulate

(91:9 acrylic acid-oxidized starched graft copolymer **crosslinked** with 0.1% N,N-methylenebisacrylamide) was added 10 g 0.5-1-in. long polyester fibers. Pouring onto a 100-mesh screen at 0.5-0.75 in. thickness and drying at room temp. 48 h gave a wet-lay material with **water** absorption 55 g/g superabsorbent polymer material and 19 g/g superabsorbent polymer material in 1% saline soln.

L37 ANSWER 22 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1991-325071 [44] WPIDS

AB WO 9115368 A UPAB: 19930928

A particulate, **absorbent**, polymeric compsn. comprising inter particle-**crosslinked** aggregates is claimed, the compsn. comprising (i) precursor particles (pref. with mass ave. particle size below 180 microns) of a **water-insol.** **absorbent**

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hydrogel-forming polymer material; and (ii) an inter particle **crosslinking** agent reacting with the precursor particles to form covalent **crosslinked** bonds and so give sufficient amt. of aggregates to impart to the compsn. a mass ave. particle size which is at least 25 (esp. at least 100%) greater than that of the precursor particles.

The compsn. is pref. such that 0.5-10 pts. wt. inter particle **crosslinker** (esp. glycerol) is mixed with 1-20 pts. wt. **water** and/or hydrophilic org. **solvent** per 100 pts. wt.

of the precursor particles. The precursor particles are pref. also surface

**crosslinked**.

The hydrogel-forming polymer of the precursor particles pref. has carboxyl gps. and the **crosslinker** pref. has at least 2 functional gps per mol reactable with these carboxyl gps.

USE/ADVANTAGE - The compsns. can be used in **diapers**, **incontinence** pads, **sanitary napkins** etc. to give a high rate of fluid uptake with minimal gel blocking and minimal dissociation of fine particles, the compsn. also showing high resistance to compression. @115p Dwg.No.1/18)@U

ABEQ EP 525049 A UPAB: 19930928

A particulate, **absorbent**, polymeric compsn., comprising inter particle-**crosslinked** aggregates, comprises (i) precursor particles (pref. with mass average particle size below 180 microns) of a **water-insol.**, **absorbent**, hydrogel-forming polymer material; and (ii) an inter particle **crosslinking** agent reacting with the precursor particles to form covalent **crosslinked** bonds and so give sufficient amt. of aggregates to impart to the compsn. a mass average particle size which is at least 25 (esp. at least 100%) greater than that of the precursor particles.

The compsn. is pref. such that 0.5-10 pts. wt. inter particle **crosslinker** (esp. glycerol) is mixed with 1-20 pts. wt. **water** and/or hydrophilic org. **solvent** per 100 pts. wt.

of the precursor particles. The precursor particles are pref. also surface

**crosslinked**.

The hydrogel-forming polymer of the precursor particles pref. has carboxyl gps. and the **crosslinker** pref. has at least 2 functional gps. per mol. reactable with these carboxyl gps..

USE/ADVANTAGE - The compsns. can be used in **diapers**, **incontinence** pads, **sanitary napkins** etc. to give a high rate of fluid uptake with minimal gel blocking and minimal dissociation of fine particles, the compsn. also showing high resistance to compression

ABEQ JP 05506263 W UPAB: 19931202

A particulate, **absorbent**, polymeric compsn. of interparticle-**crosslinked** aggregates comprises (i) precursor particles (pref. with mass. average particle size below 180 microns) of a **water** -**insol.**, **absorbent**, hydrogel-forming polymer material; and (ii) an interparticle **crosslinking** agent reacting with the precursor particles to form covalent **crosslinked** bonds and so give sufficient amt. of aggregates to impart to the compsn. a mass average particles size which is at least 25 (esp. at least 100%) greater than that of the precursor particles.

The compsn. is pref. such that 0.5-10 pts. wt. interparticle Prepared by M. Hale 308-4258 Page 18

**crosslinker** (esp. glycerol) is mixed with 1-20 pts. wt. water and/or hydrophilic organic **solvent** per 100 pts.wt. of the precursor particles. The precursor particles are pref. also surface

**crosslinked**. The hydrogel-forming polymer of the precursor particles pref. has carboxyl gps. and the **crosslinker** pref. has at least 2 functional gps per mol reactable with these carboxyl gps.

USE/ADVANTAGE - The compsns. can be used in **diapers**, **incontinence pads**, **sanitary napkins** etc. to give a high rate of fluid uptake with minimal gel blocking and minimal dissociation of fine particles, the compsn. also showing high resistance to compression.

ABEQ US 5300565 A UPAB: 19940517

A particulate, **absorbent**, polymeric compsn. comprises interparticle **crosslinked** aggregates which comprise (i) precursor particles of **water-insol.**, **absorbent**, hydrogel-forming polymer material; and (ii) an interparticle **crosslinking** agent reacted with the polymer material of the precursor particles to form covalent **crosslink** bonds between the precursor particles. The interparticle **crosslinked** aggregates are present in the polymeric compsn. in an amt. such that the polymeric compsn. has a mass average particle size at least 25% greater than the mass average particle size of the precursor particles.

USE/ADVANTAGE - The polymeric compsns. can be incorporated into **absorbent** articles e.g. **diapers**, sanitary towels or **incontinence pads**. The compsn. has improved structural integrity, an increased acquisition rate and minimal gel blocking properties.

Dwg.16/18

ABEQ US 5330822 A UPAB: 19940831

**Absorbent** member comprises a mixt. of a fibre material and a particulate, **absorbent**, polymeric compsn.. The mixt. has a fibre to polymeric compsn. wt. ratio of 98:2-2:98. The polymeric compsn. has a gel expansion pressure under a 28 x load of at least 20 kilo-dynes/cm<sup>2</sup> and

a swelling rate at a 28 x load of at least 0.3 g/g/sec.

Pref. the fibre material comprises hydrophilic fibre material, esp. wood pulp **fibres** or hydrophilised hydrophobic **fibres**.

The polymeric compsn comprises aggregates each comprising at least 2 precursor particles joined together. The **absorbent** member has a density of 0.06-0.5 g/cm<sup>2</sup>.

Also claimed is a layered **absorbent** member comprising n webs of fibrous material, where n is at least 2, and (b) a particulate **absorbent**. The webs are layered so that there is a top web, bottom web, n-2 intermediate webs and n-1 interfaces of 2 opposed contacting surfaces of adjacent webs.

USE/ADVANTAGE - Used for **diapers**, adult **incontinence pads** and **sanitary napkins**. The member has improved structural integrity, high fluid uptake rate, and low gel blocking properties.

Dwg.16/18

ABEQ US 5397626 A UPAB: 19950502

**Absorbent** prod. comprises a carrier; and interparticle **crosslinked** aggregate(s) joined to the carrier. Aggregate comprises (i) precursor particles of a **water-insol.**, **absorbent**, hydrogel-forming polymer; and (ii) an interparticle **crosslinking** agent reacted with the polymer of precursor (i) to

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form covalent **crosslink** bonds between precursor particles.

Pref. aggregates is bonded to carrier. Carrier comprises a fibre, esp. a nonwoven web. Precursor polymer contains carboxyl.

**Crosslinker** contains functional gps. capable of reacting with carboxyl.

USE/ADVANTAGE - In e.g. nappies, **incontinence** pads, **sanitary napkins**, etc.. Improved structural integrity, increased acquisition rate, and minimal gel-blocking properties.

Dwg.16/18

ABEQ US 5492962 A UPAB: 19960329

A method for producing a particulate, **absorbent**, polymeric composition comprising interparticle covalently **crosslinked** aggregates comprises: (a) providing dry precursor particles of **water-insoluble**, **absorbent**, hydrogel-forming, polymer material; the polymer material of the precursor particles being a slightly network **crosslinked** prod. of a polymer selected from the gp. consisting of hydrolysed **starch**/acrylonitrile graft copolymer, partially neutralized **starch**/acrylonitrile acid graft copolymer, **starch**-acrylic acid graft copolymer, partially neutralized **starch**-acrylic acid graft copolymer, saponified vinyl acetate-acrylic ester copolymers, hydrolysed acrylonitrile or acrylamide copolymers, and partially neutralized polyacrylic acid; (b) applying (i) an interparticle **crosslinking** agent and (ii) 0.01 to about 60 parts by wt. per 100 parts by wt. of the precursor particles of **water**, a hydrophilic organic **solvent**, or a mixt. of it onto the precursor particles; provided that when **water** is applied to the precursor particles it is used in a proportion of from about 0.1 parts to about 10 parts by wt. per 100 parts by wt. of the precursor particles; the interparticle **crosslinking** agent being capable of reacting with the polymer material of the precursor particles; the interparticle **crosslinking** agent being selected from the gp. consisting of polyhydric alcohol compounds, polyglycidyl ether compounds, polyfunctional aziridine compounds, polyfunctional amine compounds, or polyfunctional isocyanate compounds; (c) forming a multiplicity of aggregates of the precursor particles; and (d) reacting the interparticle **crosslinking** agent with the polymer material of the precursor particles of the aggregates, while insuring minimal dissociation forces or stresses are introduced during the reaction step, to form covalent **crosslink** bonds between the precursor particles to form interparticle **crosslinked** aggregates, the interparticle **crosslinked** aggregates being present in the polymeric composition in an amt. such that the polymeric composition has a mass average particle

size at least about 25% greater than the mass average particle size of the precursor particles.

Dwg.5/18

ABEQ EP 525049 B UPAB: 19961104

A particulate, **absorbent**, polymeric compsn. comprising a substantially **water-insoluble**, **absorbent**, hydrogel-forming, polymer material, which compsn. comprises inter-particle

**crosslinked** aggregates formed from the reaction of precursor particles of the polymer material which are physically associated together

and 0.01-30 pts.wt. per 100 pts. of the precursor of an inter-particle crosslinking agent, the aggregates having covalent crosslinked bonds between the precursor particles, and the polymeric compsn. having a mass average particle size of at least about 25% greater than the mass average particle size of the precursor particles.

Dwg.1/18

L37 ANSWER 23 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1991-324918 [44] WPIDS  
CR 1992-381794 [46]; 1996-200128 [20]  
AB WO 9115177 A UPAB: 20000921

An absorbent article comprises a mixt. of fibre material and particulate, absorbent, polymeric compsn. contg. interparticle-crosslinked aggregates and comprising: (i) precursor particles of water-insol. absorbent, hydrogel-forming polymer material; and (ii) an interparticle crosslinker reacted with the polymer to form constant crosslink bands which result in sufficient aggregation to give the polymer compsn. a mass ave. particle size at least 25% greater than that of the precursor particles.

USE/ADVANTAGE - The articles can be eg., diapers, incontinence pads or sanitary napkins in which the aggregates give a high rate of fluid uptake with minimal gel blocking and with minimal dissociation of fine particles on fluid contact or swelling, the articles also having high resistance to compression.

@(116pp

Dwg.No.4/18)@

ABEQ US 5149334 A UPAB: 19930928

A disposable, absorbent article consists of A) a top sheet permeable to liquid, B) a liq. impermeable backing joined to A) and C) an absorbent core between A) and B) and consisting of a) a particulate, absorbent polymeric compsn. of inter particle crosslinked agglomerate C) comprises a) virtually dry precursor particles of virtually water insoluble, absorbent, hydrogel forming hydrolysed starch/acrylonitrile graft copolymer, (partially neutralised), starch/acrylic acid copolymer, saponified vinyl acetate/acrylic ester copolymer, hydrolysed acrylonitrile or acrylamide copolymers, slightly network crosslinked products of the above copolymers, partially neutralised (slightly network crosslinked) polyacrylic acid and b) as inter particle crosslinking agent a polyhydric alcohol, polyglycidyl ether, polyfunctional aziridine, polyfunctional amine or polyfunctional isocyanate. The amount of Cb) present ensures that the particle size of the absorbent is at least 30%, pref. at least 50% greater than that of the precursor.

The core pref. also contains fibres and comprises a storage zone and an acquisition zone having a lower density and lower basis wt. than the storage zone.

USE/ADVANTAGE - For nappies; the material has a high liquid uptake rate and minimal gel blocking property; the particles have a high compression resistance; the absorption rate can be tailored. (Dwg.7/18)

ABEQ US 5180622 A UPAB: 19930928

An absorbent material consists of a mixt. of (A) fibres, pref. hydrophilic fibres esp. wood pulp fibres, and (B) a particulate, absorbent polymeric compsn. of inter particle crosslinked aggregates consisting of (a) precursor particles of

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virtually **water insoluble absorbent**, hydrogel forming polymer and (b) an inter particle **crosslinking** agent reacted with (a) to form covalent **crosslink** bonds between the particles. Sufficient aggregates are present to give (B) a mass average particle size at least 25%, pref. at least 30%, esp. at least 50% greater than that of the precursor particles.

The **absorbent** material pref. has a density 0.06-0.3 g/cm<sup>3</sup>, (Ba) is e.g. hydrolysed **starch-acrylonitrile** graft copolymer, saponified vinyl acetate-acrylic ester copolymer, (Bb) is e.g. a polyhydric **alcohol**, a polyglycidyl ether. The material contains zones of different densities e.g. an acquisition zone having a lower density than a storage zone.

**USE/ADVANTAGE** - Used as nappies, **incontinence** pads, **sanitary pads** etc. The material has a high fluid uptake with minimal gel blocking properties. It has a high resistance to compression during use and exhibits minimal dissociation of final particles on fluid contact or swelling. It contains minimal free fines in the dry state.

ABEQ JP 05506164 W UPAB: 19931202

An **absorbent** article comprises a mixt. of fibre material and particulate, **absorbent**, polymeric compsn. contg. interparticle-**crosslinked** aggregated and comprising: (i) precursor particles of **water-insol.** **absorbent**, hydrogel-forming polymer material; and (ii) an interparticle **crosslinker** reacted with the polymer to form constant **crosslink** bands which result in sufficient aggregation to give the polymer compsn. a mass ave. particle size at least 25% greater than that of the precursor particles.

**USE/ADVANTAGE** - The articles can be e.g. **diapers**, **incontinence** pads or **sanitary napkins** in which the aggregated give a high rate of fluid uptake with minimal gel blocking and with minimal dissociation of fine particles on fluid contact or swelling, the articles also having high resistance to compression.

L37 ANSWER 24 OF 37 CAPLUS COPYRIGHT 2001 ACS

1991:191051 Document No. 114:191051 **Water-absorbing** foamed resin compositions for detection of **water** leaks on optical fiber cables. Urano, Katsuyoshi; Sakuraba, Yukio; Umeda, Masanari

(Tokai Rubber Industries, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02261834 A2 19901024 Heisei, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-82084 19890331.

AB The compns., useful for a **water** sensor in a closure part of the optical fiber cables, comprise rubber 100, high **water-absorbing** resin 50-500, hydrophilic resin 5-50, and foaming agent 5-50 wt. parts. A compn. contg. EPDM rubber, **crosslinked** poly(Na acrylate), polyethylene glycol, and diazocarboamide showed high **water** absorption and an expansion ratio suitable for **water** detection.

L37 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2001 ACS

1989:480387 Document No. 111:80387 Agents and methods for removing soil from

**water**-nonpermeable materials. Ohayashi, Tsutomu; Imoto, Manabu (Hiraoka and Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 01000198 A2 19890105 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP Prepared by M. Hale 308-4258 Page 22

1987-321554 19871221. PRIORITY: JP 1987-25586 19870207.

AB Soil removers contain **water-sol.** silicic acid alkali metal salts selected from Na silicate, K silicate, and **water glass** and **water-insol.** highly **water-absorbing** polymers. Thus, a soil remover for a waterproof sheet (PVC-laminated polyester fabric) contained 3 g/L **water glass** and 3 g/L Sumikagel SP 520.

L37 ANSWER 26 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1989-259873 [36] WPIDS

AB JP 01188605 A UPAB: 19930923

Pore-sealing compsn. comprises polymerisable acrylic acid cpd. and polymerisation initiator, and also comprises 0.1-3 pts. by wt. of high **water-adsorptive** polymer cpd. to 100 pts. by wt. of the acid cpd. Pref. the polymerisable acrylic acid cpd. is of formula  $-O-C(O)-C(R)=CH_2$  (R1 is H, halogen, or 1-4C lower alkyl); polymerisation initiator is azonitrile deriv. or organic peroxide, esp. of formula (I) (R1 is methyl, n-or isopropyl or n-pentyl; R2 is methyl, n-or isopropyl, is-butyl, cyclopropyl, carboxy, cyclobutyl, n or cyclopentyl, cyclohexyl, phenyl, benzyl, p-chloro or p-nitrobenzyl). **Water-absorptive** polymers are e.g. **starch-polyacrylonitrile (PAN)-or starch-acrylate-graft copolymer, carboxymethyl-cellulose-polymer, cellulose-PAN graft copolymer, PAN crosslinking polymer, Na-polyacrylate, acrylic-vinyl alcohol copolymer, poly-ethylene oxide crosslinking polymer, PVA-maleic ester or isobutylene-maleic anhydride-copolymer, PAN fibres, and methyl methacrylate-vinyl acetate copolymer.**

USE/ADVANTAGE - Provides sealing compsn. which intrudes into porous materials e.g. ceramics and sintered metal, thus efficiently functioning at cleaning and hardening using hot **water**, avoiding loss of compsn. through pores.

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L37 ANSWER 27 OF 37 CAPLUS COPYRIGHT 2001 ACS

1988:495031 Document No. 109:95031 **Water-setting** paper for urine containers and toilets. Karita, Takeshi (Saito, Yoshiro, Japan; Kuromatsu, Shunichi). Eur. Pat. Appl. EP 273075 A1 19880706, 8 pp. DESIGNATED STATES: R: CH, DE, FR, GB, IT, LI, NL, SE. (English).

CODEN:

EPXXDW. APPLICATION: EP 1986-310228 19861231.

AB **Water-setting** paper (**high-water absorbency** sheets), useful in urine containers and portable toilets, is manufd. from pulp, **fibers**, **water-sol.** resins, and **high-absorbency** resins.

L37 ANSWER 28 OF 37 CAPLUS COPYRIGHT 2001 ACS

1988:99991 Document No. 108:99991 Cast ceramic products and method for making molded refractory fiber products. Wolter, Peter A.; Esposito, Arthur N. (General Signal Corp., USA). Eur. Pat. Appl. EP 251150 A2 19880107, 7 pp. DESIGNATED STATES: R: DE, FR, GB, IT, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1987-109007 19870623. PRIORITY: US 1986-878068 19860624.

AB The cast ceramic products are prep'd. by placing a uniform, nonflowable mixt. of ceramic **fibers**, **water**, and a deflocculant in a **water-absorbing** mold, vibrating the mold to cause the mixt. to flow in contact with the mold, allowing a large portion of the **water** to be adsorbed by the mold and the mixt. remnants to

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harden, removing the product from the mold, and heating the product to sinter abutting **fibers** to each other. The ceramic **fibers** have a uniform cross section and an av. length of <0.25 in., and they are randomly distributed in the mixt. These ceramic products have d. 30-150 lb/ft<sup>3</sup>, and do not contain a binder. Thus, 290 g ceramic **fibers** (Al<sub>2</sub>O<sub>3</sub> 95, SiO<sub>2</sub> 5%) were chopped to av. length <0.25 in. and provided with 320 cm<sup>3</sup> of a mixt. of aq. **polyelectrolyte** soln. (Darvan 7) 5 cm<sup>3</sup> and ammonium **alginate** 2 g in 1000 cm<sup>3</sup> **water**. The slurry was mixed at low intensity for 13 min, and the mix, having a pudding consistency, was hand-fed into a pottery planter (K-60) mold to produce a 1/2 .times. 2 .times. 9-in.degree. tile. The green product was removed from the mold after 1/2 h, dried on the air for .apprx.24 h, and fired at 1560.degree. for 3 h, to give a finished product with d. 63 lb/ft<sup>3</sup>.

L37 ANSWER 29 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1989-043112 [06] WPIDS  
AB JP 63315235 A UPAB: 19930923

A **water-absorbing**, **water-retaining** sheet comprises **water-resistant** base, and a coat formed by applying coating liq. to at least 1 side of the **water-resistant** base. The coating liq. comprises fine powder of **water-soluble** high polymeric electrolyte which is partially **crosslinked** three-dimensionally, a fine powder of non-electrolytic **water**-soluble high polymer which is partially **crosslinked** three-dimensionally, and a resin binder contg. a non-aq. **solvent** or excluding **solvent**.

Pref. the amt. of fine powdered non-electrolytic, **water**-soluble high polymer is not les than that of the fine powdered **water-soluble** electrolytic high polymer.

Pref. **water-soluble** electrolytic high polymer is hydrolysate of sodium acrylate polymers of **starch**-sodium acrylate graft-copolymers, etc. Non-electrolytic, **water-soluble** high polymer is pref. polyethylene oxides, polyacrylic acid, etc. partially **crosslinked** with an isocyanate, etc. Resin binder is pref. polyamide resins, linear thermoplastic polyester resins, etc. dissolved in **methanol**, ethylacetate, **acetone**, etc..

USE/ADVANTAGE - Used for **water-shielding** covering materials for optical **fibres**, etc. The sheet has two different **water absorbing** mechanisms and two different **water** absorption velocities, so can be used in pure **water** contg. high concns. of salts, e.g. sea **water**.

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L37 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 3  
1988:117824 Document No. 108:117824 Hydraulic compositions containing hydrogels as mixing-**water** sources. Hamaguchi, Tetsuo; Natsuume, Tadao; Ueda, Tsunehisa (Nippon Zeon Co., Ltd., Japan). Ger. Offen. DE 3716974 A1 19871210, 15 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1987-3716974 19870520. PRIORITY: JP 1986-115635 19860520; JP 1986-181140 19860731; JP 1986-181141 19860731; JP 1986-191528 19860815; JP

1986-232779

19860930; JP 1986-232780 19860930.

AB Hydraulic compns. are prep'd. from a hydraulic component and and an org. hydrogel, and optionally aggregates or crushed materials, reinforcing materials, and other additives to give consistency or slump values (JIS

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A-1101) of  $\text{ltoreq.1}$  cm in concrete charges and flow values (JIS R-5201) of  $\text{ltoreq.120}$  mm in mortar or paste charges. The hydraulic component is a cement, gypsum, or blast-furnace slag or fly ash contg. an alk. mineralizer. The hydrogel is obtained by **water** absorption by strongly **water-absorbing** polymers selected from the group comprising **starch-acrylonitrile graft copolymer**, CM-cellulose, polyacrylonitrile, polyethylene oxide, vinyl acetate-acrylic salt copolymers, vinyl **alc.-acrylic salt** copolymers, poly(acrylic acid salt), and olefin-maleic acid anhydride copolymers.

The hydrogel is obtained by conversion of polycarboxylic acid salts, i.e. poly(acrylic acid salts) or olefin-maleic acid anhydride copolymers, with a **crosslinking** agent in the presence of **water**. The std. **water** vol. for concrete batches is  $\text{ltoreq.150}$  kg/m<sup>3</sup> and the **water**/cement ratio (w/c) for mortar is  $\text{ltoreq.0.4:1}$ . At least part of the hydrogel,  $\text{gtoreq.30}$  wt. of the total amt., contains 0.01-3 wt.% of a dispersing agent, i.e. a high-performance **water**-reducing agent or a fluidizing agent; the std. **water** vol. for concrete batches then is  $\text{ltoreq.160}$  kg/m<sup>3</sup>. The use of org. hydrogels as the source of mixing **water** results in uniform dry kneading with excellent dispersibility and increased working time and gives a high-strength product at lower mixing-**water** vols. Mortar cylinders, diam. 5 cm and length 10 cm, were made from 1500 g Asano portland cement, 1500 g sand, and the hydrosol of Aqualic (a polyacrylic acid-type resin) in the amt. supplying 525 g **water** (w/c 0.35:1), by pressing 5 min at 10 kg/cm<sup>2</sup>. The aged cylinders had 3-, 7-, and 28-day

compressive strengths of 390, 478, and 603 kg/cm<sup>2</sup> vs. 303, 405, and 541 kg/cm<sup>2</sup>, resp., for cylinders prep'd. with 600 g **water** (w/c 0.40:1) and no hydrogel. The JIS R-5201 flow values were 118 and 200 mm for the mortars prep'd. with the Aqualic hydrogel and **water**, resp.

L37 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2001 ACS  
1989:484147 Document No. 111:84147 Hemostatic adhesives for oral surgery.  
Mozisek, Maxmilian; Cerny, Pavel; Smekal, Miroslav; Prikryl, Ivan  
(Czech.). Czech. CS 238016 B1 19871015, 9 pp. (Czech). CODEN: CZXXA9.  
APPLICATION: CS 1982-3748 19820521.

AB Hemostatic pastes are prep'd. from 20-90% powd. or fibrous hemostatic (e.g., CM-cellulose and/or microcryst. collagen) and 5-80% hydrophilic hemostatic adhesive (e.g., hydroxyethylcellulose, methylhydroxyethyl cellulose). The pastes are useful in oral surgery. Porous compact hemostatics for tooth were prep'd. from a CM-cellulose-based mixt. CM-cellulose (contg. 16% COOH group converted to a Ca salt) was prep'd. by selective oxidn. of cotton gauze, removal of a **water**-sol., low-mol. position, and processing to **fibers** 1-3 mm long. The mixt. consisted of CM-cellulose 80, hydroxyethyl cellulose adhesive (purity  $\text{gtoreq.99.5\%}$ , av. substitution degree 1.2) 18, and ethoxylated sorbitol oleate (as solubilization additive) 2%. After prep'g. the molded pastes, the hydroxyethyl cellulose was **crosslinked** by using ionization irradn. The microporous structure with a high sorption ability

was attained by using vacuum sublimation. The resulting products were encased and sterilized by using ionization radiation.

L37 ANSWER 32 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1987-346195 [49] WPIDS

AB JP 62250940 A UPAB: 19930922

The gel is **crosslinked** polyvinylmethylether (PVME) gel having fine pores. The prodn. comprises radiating gamma-ray or electron beam on an aq. soln. contg. 5-50 wt.% PVME being kept in a give shape while the temp. of the soln. is maintained around the phase transition temp. of PVMA.

PVME is prepd. by the cation polymerisation of vinylmethylether using

BF<sub>3</sub>, I<sub>2</sub>, AlCl<sub>3</sub> or FeCl<sub>3</sub> as an initiator. PVME has 32-40 deg.C phase transition temp., which can be lowered by adding (in)organic salts like NaCl or CH<sub>3</sub>COONa, polymer electrolytes like sodium **alginate** or polyacrylate; or elevated by adding **water**-soluble **alcohols** or **ketones** like MeOH or acetone. If necessary, metallic powders, iron oxide, carbon black, or **fibres** can be admixed with the gel when it is irradiated.

USE/ADVANTAGE - Used as a mechanochemical material for energy storage

or conversion, actuators, sensors, **water-absorber** or dehydrator, or **water** supplier, or toys. **Water** can be **absorbed** or desorbed at a higher speed.

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L37 ANSWER 33 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1986-141803 [22] WPIDS

AB JP 61078485 A UPAB: 19930922

Non-flammable coagulant contains (a) **water absorber** consisting of polymer (I) which can **absorb** 0.9% salt contg. **water** in amt. 60 times the weight of the polymer; and (b) **fibres**.

Pref. polymer is high **crosslinking** poly sodium acrylate, with mol. wt. over 600,000, e.g. 800,000-1,000,000, copolymer of vinylalcohol and acrylate; **starch** polyacrylate, graft copolymer of **starch** and acrylate or copolymer of isobutylene and maleic acid. Fibre is pref. pulp flock or synthetic cellulose fibre. Over 35 g, e.g. over 50 g of coagulant is pref. added to 1 l of waste **water**. Waste **water** contains oil (substances extracted by hexane) and/or dye and pigment and/or surfactant.

ADVANTAGE - By adding coagulant to waste **water**, the waste **water** is caked and treated as solid wastes. Caked substances can be treated by burning.

0/1

L37 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2001 ACS

1986:136114 Document No. 104:136114 Dispersed **absorbent** products and method of use. Korpman, Ralf; Gandy, Charles (Personal Products Co., USA). Eur. Pat. Appl. EP 157960 A1 19851016, 27 pp. DESIGNATED STATES: R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1984-302059 19840327.

AB Particulate, **water-insol.**, **water-swellable** **absorbents** dispersed in an org. liq. may be employed alone or on a substrate to provide articles such as pads and **diapers**. **Absorbents** include acrylate polymers, acrylate polymer modified **polysaccharides**, **crosslinked** CM-cellulose, **crosslinked** poly(alkylene oxides) and gum blends. The vehicles

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include oils, liq. resins, liq. rubbers, liq. polyalkylenes, glycol ethers, and higher alcs. Thus, starch polyacrylate dispersed in mineral oil was applied to a nonwoven rayon sheet. The materials were employed in the **absorbent** portion of **diapers** and backed with a moisture impermeable film to produce disposable **diapers** having superior absorptive properties and in which the particulate **absorbents** were retained in place.

L37 ANSWER 35 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1985-165203 [28] WPIDS

AB CA 1186184 A UPAB: 19930925

A method of making an air-laid soft, high bulk, fibrous web having a basis

wt. of 8.50 lb/ream with improved **absorbence** is claimed. A loose web is air laid and bonded with an adhesive which is then cured. The rate of **absorbency** of the web is improved by treating it with an aq. soln. of a **water-soluble hydrophile** at or after the bonding step. The treated web is dried and retains 0.1-5.0 wt.% hydrophile.

A web prod. made by this method is also claimed. The web consists of paper-making **fibres**, the adhesive represents 15-30% of the basis wt. of the web prod. and the hydrophile pref. 0.5-2.5 wt.%. The **absorbency** of the prod., as measured by mirror wipe time, is increased by at least 20% as compared to webs not contg. the hydrophile.

USE/ADVANTAGE - The prod. is used in tissue, towel and napkin prods. of high bulk and **absorbency**.

0/2

ABEQ US 4600462 A UPAB: 19930925

Air laid soft, high bulk, **absorbent** fibrous web (I) having a basis wt. ranging from 8-50 lbs.ream is produced by a) air laying a loose web, b) bonding the web with a hydrophobic adhesive material (II), c) curing the adhesive material (II), d) incorporating into the web an aq. soln. of a **water-soluble hydrophile** an aq. soln. of a **water-soluble hydrophile** at any stage in the process contemporary with, or subsequent to step b), to enhance the **absorbency** rate of the web by neutralising the anti-wetting effects of material (II), and e) drying the web while retaining 0.1-5 % by wt. of the hydrophile. The hydrophile used is polyethylene oxide, cellulose ethers, used is polyethylene oxide, cellulose ethers, hydroxymethyl cellulose, polyvinyl alcohol, polyvinyl pyrrolidone, gelatin, graft copolymers of starch, crosslinked polyacrylates, acrylate polymers, crosslinked carboxymethyl cellulose alkali salts, starch or guar gum grafted with acrylamide acid salts in combination with divinyl cpds., glycerin and compatible combinations of these.

ADVANTAGE - (I) so obt. has enhanced **absorbency** rate and high degree of perceived softness.

L37 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2001 ACS

1982:440061 Document No. 97:40061 **Absorbent** foam products and compositions for immobilization of particulate **absorbents**.

Korpman, Ralf (Johnson and Johnson, USA). Brit. UK Pat. Appl. GB

2083487

A 19820324, 11 pp. (English). CODEN: BAXXDU. APPLICATION: GB 1981-25780 19810823. PRIORITY: US 1980-181289 19800825; US 1981-248387 19810327; US 1981-274232 19810622.

AB Particulate **absorbents** of **water-insol** **water**  
Prepared by M. Halé 308-4258

-swellable acrylic polymers or acrylate-modified **polysaccharides** having a gel capacity .gt; or <math>\geq 10</math> are immobilized by a liq. polyhydroxy org. compd. The **absorbent**-immobilizing compn. with or without a blowing agent can be cast or coated on an appropriate surface, e.g., release agent-coated fabric, paper, or plastic, to give free **absorbent** films or sheets; foamed in place in the presence of a blowing agent to give self-supporting products having high absorptive capacity and structural integrity; used as an impregnating agent in cellulosic materials; or used as a coating on plastics or metal foils. Thus, a mixt. of 50 parts hydrolyzed acrylonitrile-grafted **starch** and 100 parts ethylene glycol [107-21-1] was applied on nonwoven rayon fabric contg. 20-35% acrylate ester copolymer (I) binder or a rayon-polyester fiber blend fabric contg. 20-30% I binder to give topsheet materials or inserts for disposable **diapers** having superior absorption properties.

L37 ANSWER 37 OF 37 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1980-63079C [36] WPIDS

AB JP 55097247 A UPAB: 19930902

Oil wastes, e.g. derived from natural or synthetic mineral oil or animal and plant oil wastes, etc. is solidified or gelled by contacting it with polymer substance capable of forming gel on absorption of **water**, e.g. saponified **starch**-polyacrylonitrile graft polymer, **crosslinked** PVA-acrylonitrile copolymer, **crosslinked** polyethyleneoxide and/or polyacrylonitrile in the presence of **water** and surfactant. The amt. of the polymer substance to be used can be reduced by incorporating plant **fibres**, e.g. cotton, reproduced cotton, pulp **fibres**, peat **fibres** etc.

=> s malmgren k?/au,in;s widberg b?/au,in

'IN' IS NOT A VALID FIELD CODE

L38 34 FILE MEDLINE

L39 8 FILE CAPLUS

L40 35 FILE BIOSIS

'IN' IS NOT A VALID FIELD CODE

L41 28 FILE EMBASE

L42 6 FILE WPIDS

L43 0 FILE JICST-EPLUS

'IN' IS NOT A VALID FIELD CODE

L44 0 FILE BIOTECHNO

TOTAL FOR ALL FILES

L45 111 MALMGREN K?/AU,IN

'IN' IS NOT A VALID FIELD CODE

L46 1 FILE MEDLINE

L47 2 FILE CAPLUS

L48 1 FILE BIOSIS

'IN' IS NOT A VALID FIELD CODE

L49 1 FILE EMBASE

L50 1 FILE WPIDS

L51 0 FILE JICST-EPLUS

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'IN' IS NOT A VALID FIELD CODE  
L52 0 FILE BIOTECHNO

TOTAL FOR ALL FILES  
L53 6 WIDBERG B?/AU, IN

=> s 145 and 153

L54 0 FILE MEDLINE  
L55 1 FILE CAPLUS  
L56 0 FILE BIOSIS  
L57 0 FILE EMBASE  
L58 1 FILE WPIDS  
L59 0 FILE JICST-EPLUS  
L60 0 FILE BIOTECHNO

TOTAL FOR ALL FILES  
L61 2 L45 AND L53

=> s 161 not 136

L62 0 FILE MEDLINE  
L63 0 FILE CAPLUS  
L64 0 FILE BIOSIS  
L65 0 FILE EMBASE  
L66 1 FILE WPIDS  
L67 0 FILE JICST-EPLUS  
L68 0 FILE BIOTECHNO

TOTAL FOR ALL FILES  
L69 1 L61 NOT L36

=> d

L69 ANSWER 1 OF 1 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1997-372892 [34] WPIDS  
DNN N1997-309585 DNC C1997-120235  
TI Production of polysaccharide fibres, useful in absorbent materials -  
comprises dissolving polysaccharide in solvent and spraying solution into  
bath containing water-miscible organic solvent and crosslinker.  
DC A11 A96 D22 F01 F07 P34  
IN MALMGREN, K; WIDBERG, B  
PA (SCAD) SCA HYGIENE PROD AB; (SCAD) SCA MOELNLYCKE AB; (MOLN) MOELNLYCKE  
AB  
CYC 28  
PI WO 9725463 A1 19970717 (199734)\* EN 28p D01F002-28  
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
W: AU CZ JP KR MX PL RU SK US  
SE 9600087 A 19970711 (199739) D01F003-28  
ZA 9700059 A 19970923 (199744) 29p D01F000-00  
AU 9713233 A 19970801 (199748) D01F002-28  
SE 505873 C2 19971020 (199748) A61L015-28  
EP 904433 A1 19990331 (199917) EN D01F002-28  
R: DE FR GB IT NL  
AU 713072 B 19991125 (200006) D01F002-28  
Prepared by M. Hale 308-4258

MX 9805144 A1 19981001 (200019) D01F002-28  
 JP 2000503730 W 20000328 (200026) 30p D01F002-28  
 TW 384320 A 20000311 (200052) A61F013-15  
 ADT WO 9725463 A1 WO 1996-SE1698 19961218; SE 9600087 A SE 1996-87 19960110;  
 ZA 9700059 A ZA 1997-59 19970103; AU 9713233 A WO 1996-SE1698 19961218,  
 AU 1997-13233 19961218; SE 505873 C2 SE 1996-87 19960110; EP 904433 A1 EP  
 1996-944717 19961218, WO 1996-SE1698 19961218; AU 713072 B AU 1997-13233  
 19961218; MX 9805144 A1 MX 1998-5144 19980624; JP 2000503730 W WO  
 1996-SE1698 19961218, JP 1997-525124 19961218; TW 384320 A TW 1997-100038  
 19970104  
 FDT AU 9713233 A Based on WO 9725463; EP 904433 A1 Based on WO 9725463; AU  
 713072 B Previous Publ. AU 9713233, Based on WO 9725463; JP 2000503730 W  
 Based on WO 9725463  
 PRAI SE 1996-87 19960110  
 IC ICM A61F013-15; A61L015-28; D01F000-00; D01F002-28; D01F003-28  
 ICS A61F005-44; A61F013-45; A61L015-60; D01F002-00; D01F002-06;  
 D04H001-42

=> dis his

(FILE 'HOME' ENTERED AT 11:48:53 ON 06 MAR 2001)

FILE 'REGISTRY' ENTERED AT 11:49:09 ON 06 MAR 2001  
 E CARBOXYMETHYL CELLULOSE/CN 5

L1 2 S E3  
 E CELLULOSE XANTHANE/CN 5  
 E STARCH/CN 5  
 L2 1 S E3  
 L3 2 S (GELLAN OR GELAN)/CN  
 L4 4 S (CHITIN OR CHITOSAN OR GUAR GUM OR PECTIN OR ALGINATE)/CN

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, BIOTECHNO'  
 ENTERED AT 11:50:37 ON 06 MAR 2001

L5 1752 FILE MEDLINE  
 L6 20445 FILE CAPLUS  
 L7 3601 FILE BIOSIS  
 L8 1630 FILE EMBASE  
 L9 11303 FILE WPIDS  
 L10 6339 FILE JICST-EPLUS  
 L11 806 FILE BIOTECHNO  
 TOTAL FOR ALL FILES  
 L12 45876 S (L1 OR L2 OR L3 OR L4 OR CARBOXYMETHYL CELLULOSE OR STARCH  
 OR  
 L13 21 FILE MEDLINE  
 L14 1397 FILE CAPLUS  
 L15 87 FILE BIOSIS  
 L16 81 FILE EMBASE  
 L17 954 FILE WPIDS  
 L18 157 FILE JICST-EPLUS  
 L19 38 FILE BIOTECHNO  
 TOTAL FOR ALL FILES  
 L20 2735 S L12 AND (CROSSLINK? OR CROSS LINK? OR POLYELECTROLYTE OR  
 POLY

L21 0 FILE MEDLINE  
L22 67 FILE CAPLUS  
L23 0 FILE BIOSIS  
L24 0 FILE EMBASE  
L25 59 FILE WPIDS  
L26 2 FILE JICST-EPLUS  
L27 0 FILE BIOTECHNO  
TOTAL FOR ALL FILES  
L28 128 S L20 AND (FIBERS OR FIBRES) AND (SOLVENT OR WATER OR WATER  
MIS  
L29 0 FILE MEDLINE  
L30 19 FILE CAPLUS  
L31 0 FILE BIOSIS  
L32 0 FILE EMBASE  
L33 21 FILE WPIDS  
L34 0 FILE JICST-EPLUS  
L35 0 FILE BIOTECHNO  
TOTAL FOR ALL FILES  
L36 40 S L28 AND (ABSORB? OR DIAPER OR INCONTINEN? OR  
SANITARY(W) (PAD  
L37 37 DUP REM L36 (3 DUPLICATES REMOVED)  
L38 34 FILE MEDLINE  
L39 8 FILE CAPLUS  
L40 35 FILE BIOSIS  
L41 28 FILE EMBASE  
L42 6 FILE WPIDS  
L43 0 FILE JICST-EPLUS  
L44 0 FILE BIOTECHNO  
TOTAL FOR ALL FILES  
L45 111 S MALMGREN K?/AU, IN  
L46 1 FILE MEDLINE  
L47 2 FILE CAPLUS  
L48 1 FILE BIOSIS  
L49 1 FILE EMBASE  
L50 1 FILE WPIDS  
L51 0 FILE JICST-EPLUS  
L52 0 FILE BIOTECHNO  
TOTAL FOR ALL FILES  
L53 6 S WIDBERG B?/AU, IN  
L54 0 FILE MEDLINE  
L55 1 FILE CAPLUS  
L56 0 FILE BIOSIS  
L57 0 FILE EMBASE  
L58 1 FILE WPIDS  
L59 0 FILE JICST-EPLUS  
L60 0 FILE BIOTECHNO  
TOTAL FOR ALL FILES  
L61 2 S L45 AND L53  
L62 0 FILE MEDLINE  
L63 0 FILE CAPLUS  
L64 0 FILE BIOSIS  
L65 0 FILE EMBASE  
L66 1 FILE WPIDS  
L67 0 FILE JICST-EPLUS  
L68 0 FILE BIOTECHNO  
TOTAL FOR ALL FILES

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L69

1 S L61 NOT L36

=> s (145 or 153) and 128

L70 0 FILE MEDLINE  
L71 1 FILE CAPLUS  
L72 0 FILE BIOSIS  
L73 0 FILE EMBASE  
L74 0 FILE WPIDS  
L75 0 FILE JICST-EPLUS  
L76 0 FILE BIOTECHNO

TOTAL FOR ALL FILES

L77 1 (L45 OR L53) AND L28

=> d

L77 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS  
AN 1997:552656 CAPLUS  
DN 127:163061  
TI Manufacture of **polysaccharide fibers** as absorbent materials and **polysaccharide fibers** and absorbent articles therefrom  
IN Malmgren, Kent; Widberg, Bengt  
PA SCA Molnlycke Ab, Swed.; Malmgren, Kent; Widberg, Bengt  
SO PCT Int. Appl., 29 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9725463	A1	19970717	WO 1996-SE1698	19961218
	W: AU, CZ, JP, KR, MX, PL, RU, SK, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,				
SE	SE 9600087	A	19970711	SE 1996-87	19960110
	SE 505873	C2	19971020		
	AU 9713233	A1	19970801	AU 1997-13233	19961218
	AU 713072	B2	19991125		
	EP 904433	A1	19990331	EP 1996-944717	19961218
	R: DE, FR, GB, IT, NL				
	JP 2000503730	T2	20000328	JP 1997-525124	19961218
PRAI	SE 1996-87		19960110		
	WO 1996-SE1698		19961218		

=> del his y

=> fil reg

COST IN U.S. DOLLARS

FULL ESTIMATED COST

	SINCE FILE ENTRY	TOTAL SESSION
	178.04	213.01
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